XC Mini

the MP45 Series

MP45 Series OVERVIEW

The MP45 Series
Next Generation Upgrades

- **Intel ® GM45+ICH9M (Montevina)**
  Push the Limits with Maximum Core 2 Duo Performance
- **Intel ® Core ™ 2 Duo (Penryn)**
  Power Up and Speed Through Applications
- **GMAX4500 Graphics Engine**
  Enjoy Stunning Blu-ray and Full 1080p HD
- **Microsoft ® DirectX ™ 10**
  Step Up to Hardcore 3D Gaming
- **5.1-Channel Surround Sound**
  Listen to the Heartbeat of an HD Home Theater System
- **SilenTek (≤ 22dB) Cooling and Low Heat Output**
  Enjoy Superb Quality of Environment
- **Energy Star 4.0 and RoHS Ready**
  Make a sustainable decision with AOpen Green Tech and save big on energy costs!

Socket P Penrun | 45nm Processors Ready | TRULY 64 bits Architecture | 1066 MHz FSB | intel GM45 ICH9M | GMA X4500 | SODIMM DDRII Dual Channels | 800 DDRII | Windows Vista™

AOpen

The New XC Minis: MP45-D, MP45-DR and MP45-DU

The MP45 Series represents the latest edition to AOpen's Energy Star 4.0 Ready XC Minis – the world's smallest desktop PCs offering Core 2 Duo (Penryn) power and the Intel ® GMAX4500 graphics engine for Blu-ray, full 1080p HD. MP45s also offer the Realtek ALC888 HD audio chip for superb 5.1-channel surround sound plus Microsoft ® DirectX™ 10 for true 3D gaming.

Incredible! Get all those features in a single AOpen mini-form of only 1.36L and weighing only 5 lbs? *Yep*. The MP45 mini-forms are all-in-one solutions for space-saving desktops, HD home theater centers, 3D gaming and much more.

MP45: More Expandability

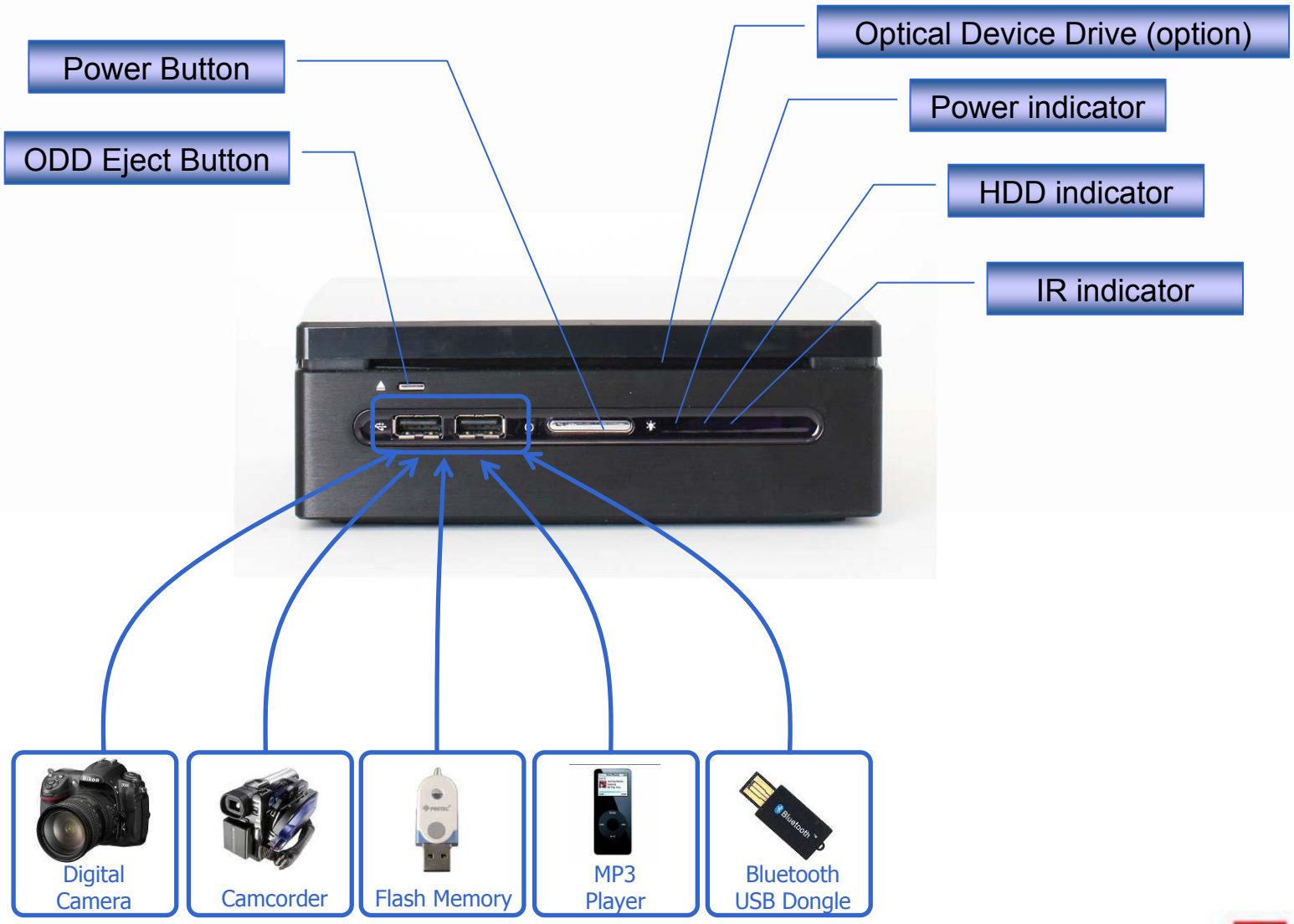
For the peripheral-hungry who demand more, AOpen has your back.

AOpen's MP45s are packed with a ton of integration options for incredible expandability:

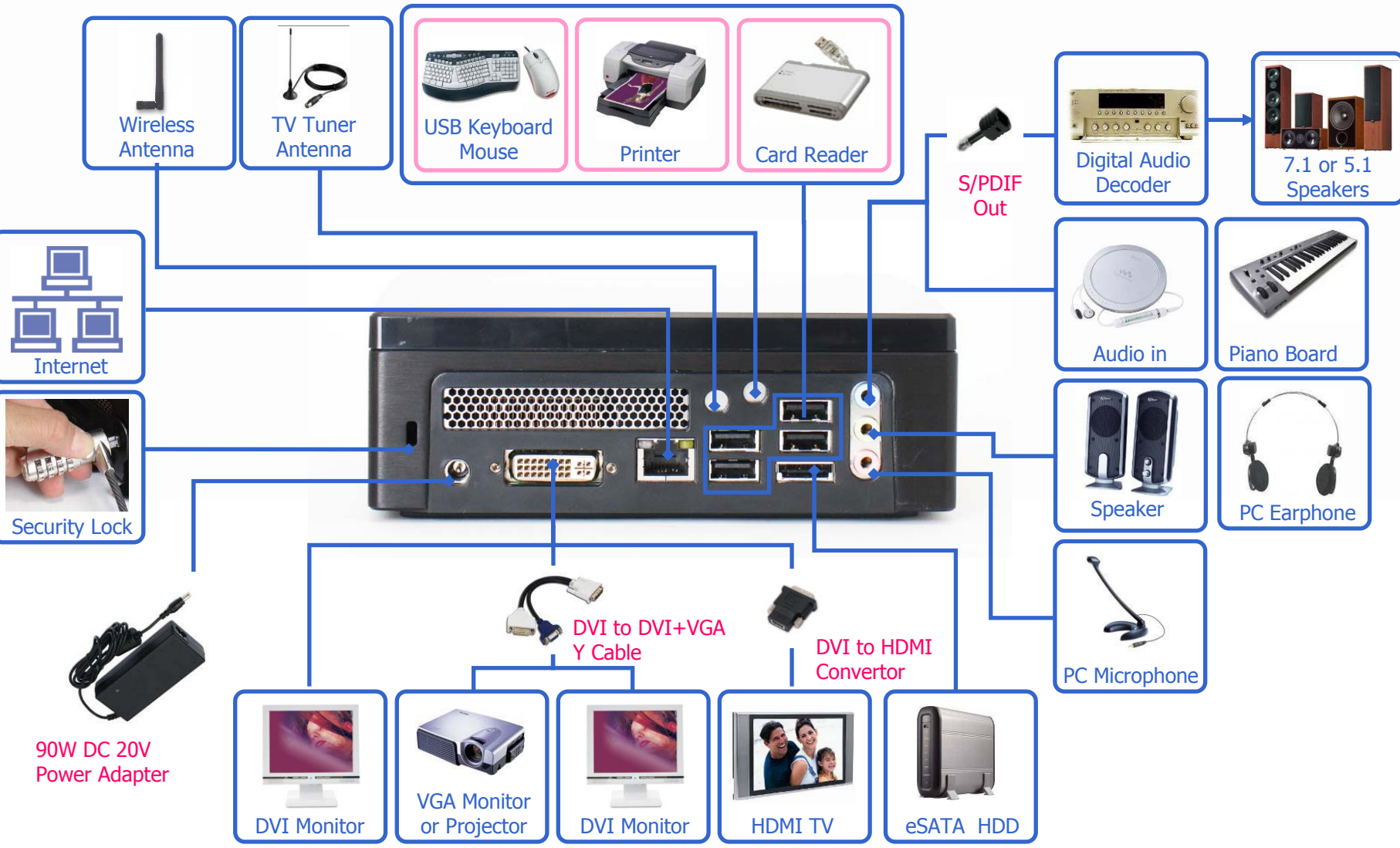
- **USB 2.0 x 6**
- **e-SATA**
- **PCI-e x 2**
- **HDMI and DVI**
- **Analog/Digital TV Tuners**
- **Ethernet Ports**
- **802.11 b/g network modules**

AOpen Labs created the MP45 Series with AOpen's "Open & Share" design philosophy in mind meaning that AOpen evolved from a great idea to great implementation by staying committed to a 360 view of what consumers truly desire in advanced uSFF technology – AOpen has gained deep insights into areas ranging from the *public sector* to *digital signage* to *space-saving office workstations* to *energy-efficient home PCs* to *HD home theater centers* to *3D gaming* and more.

Front Panel


Power Button
ODD Eject Button
Optical Device Drive (option)
Power indicator
HDD indicator
IR indicator
Digital Camera
Camcorder
Flash Memory
MP3 Player
Bluetooth USB Dongle

Rear Panel


Wireless Antenna
TV Tuner Antenna
USB Keyboard Mouse
Printer
Card Reader
S/PDIF Out
Digital Audio Decoder
7.1 or 5.1 Speakers
Internet
Audio in
Piano Board
Security Lock
Speaker
PC Earphone
PC Microphone
DVI to DVI+VGA Y Cable
DVI to HDMI Convertor
90W DC 20V Power Adapter
DVI Monitor
VGA Monitor or Projector
DVI Monitor
HDMI TV
eSATA HDD

1080p HD and Blu-ray

MP45 Series: HD Multimedia Center

In its dual roles as a space-saving PC and an HD multimedia center, AOpen's MP45 mini-forms can support a full range of HD media and 3D gaming requirements including **dual screens** for media-centric workstations and HDMI connections for HDTVs. HD home theater systems run by MP45s produce authentic 5.1-channel surround sound in addition to 1080p Blu-ray playback along with intense 3D gaming graphics. The amazing versatility of the MP45 mini-form's technology is only heightened by the flexibility found in its space-saving, lightweight and portable dimensions. Additionally, MP45s allow for superb quality of environment thanks to **ultra low-heat output** and **noiseless (22dB) operation**.

HD Multimedia Accessories

As a leading facilitator of total integrated solutions, AOpen is committed to maintaining vital alliances with premium solution providers along the channel for all of AOpen's valued partners. In fact, AOpen partners can easily supplement MP45 bundles with many popular accessories including: **Slim Super-Multi DVD RW drives** for data storage, **Blu-ray Slim DVD RW drives** for HDTV and **Bluetooth technology** for mobile devices.

DVI HDMI Connector HDTV 1080P CRT AOpen

HDMI Converter

HDMI (High Definition Multimedia Interface)

- **Version HDMI 1.1**
- **1080p** (1920x1080) Full HD Resolution
- MP45 as a Blu-ray Player: RW Blu-ray and Downloads in **HDTV**
- MP45 as a Gaming PC: Play **3D Video Games** in HDTV

Dual Displays

AOpen's MP45 mini-forms support dual displays with DVI-to-DVI+VGA Y cables (included with the MP45-DR only).

Dual displays can empower media-centric workstations and design-heavy desktops to new heights of productivity and production quality. Multi-tasking on work, educational, social and entertainment tasks in addition to expanding the digital canvas for design tasks are only two of the incredible benefits of running dual displays with AOpen's MP45 mini-forms.

AOpen's *Energy Star 4.0 Ready* Configurations

MP45 mini-forms are available by special request from AOpen in Energy Star 4.0 Ready Configurations that include bundles of barebone systems with components and software that have been fully tested and validated by Energy Star as Energy Star 4.0 Ready for Certification.

AOpen Partners interested in Energy Star 4.0 Ready Configurations for MP45s can take advantage of the following configuration attributes:

- **Ultra Low Energy Consumption with MoDT (CPU ≤ 35W, MP45-DR ≤ 90W)**
- **RoHS and E.S. 4.0 Readiness for Negligible Levels of Lead, Cadmium, Mercury and Other Hazardous Materials**
- **Innovative 20V Charger to Reduce Wasted Power**
- **uSFF Compact Size to Reduce Materials and Packing Waste**
- **Sustainable End-of-Life Design: Green Tech Architecture Allows for Ease of Recycling**
  MP45 Mini-Forms Can Be Disassembled for Ease of Recycling and Separation of Components with Trace Levels of Hazardous Materials
- **WEEE Recycling Label on All MP45 Mini-Forms**
- **"Open & Share" Architecture for *Long Lifecycles***
  Open Architecture: Highly Customizable Platforms for Next Generation Upgrades
- **Modular Designs: Simple, Highly Cost-Efficient Maintenance and Upgrades**

AOpen's Energy Star 4.0 Ready Configurations Program also provides necessary documents from components and platform manufacturers and software integrators (if applicable) to help AOpen Partners qualify for the Energy Star Label.

SilenTek and Smart CPU Cooling

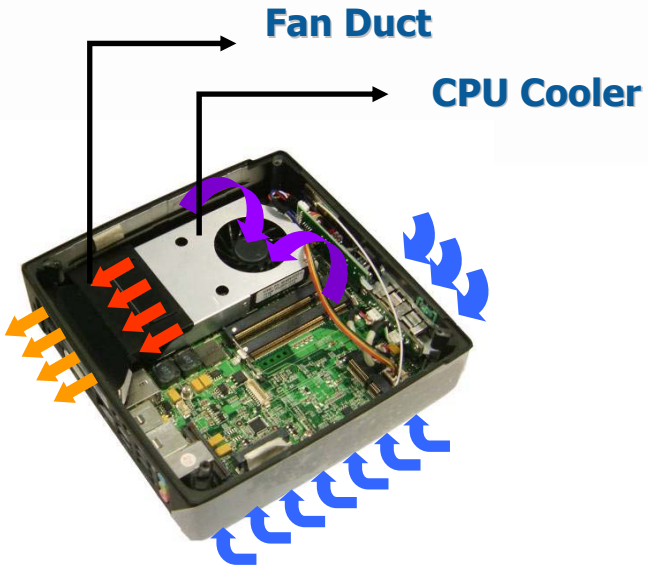
- **Quality of Environment**
  - XC Mini **Smart CPU Cooler**
    -Ultra-efficient cooling system reduces fan noise to ≤ 22dB
    -Innovative graphite device distributes heat output evenly for more efficient natural convection cooling
  - XC Mini **Fan Duct**
    -patented AOpen CPU fan duct intelligently guides air flow for maximum cooling

CPU Cooler

+

Fan Duct

=

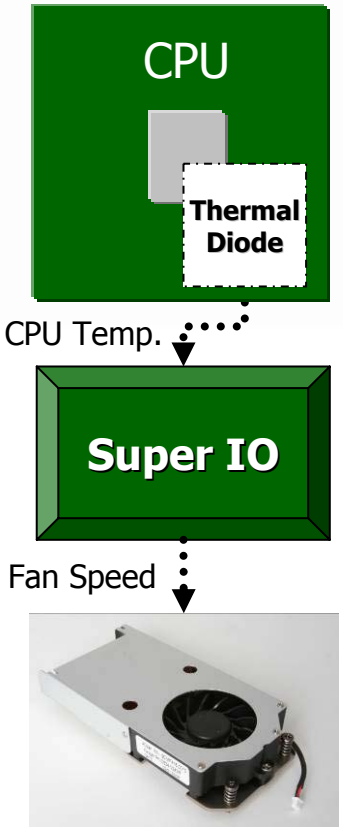


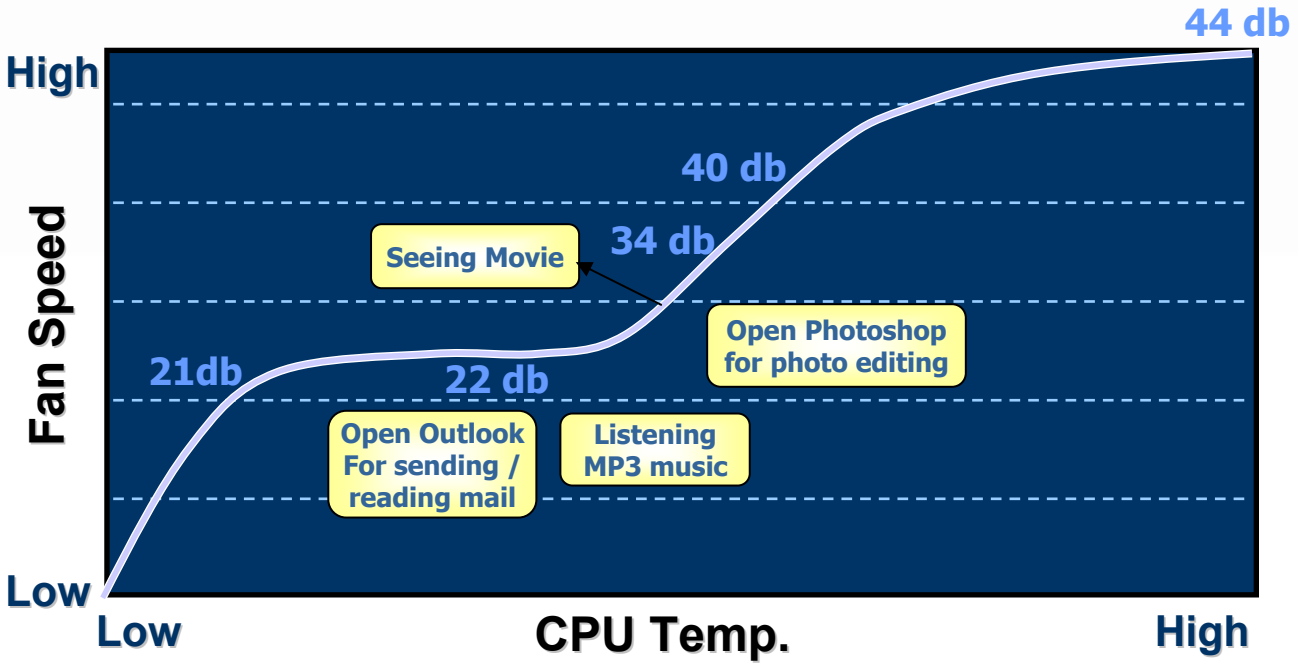
Full Loading ≤ 34db
Idle Mode ≤ 22db only

Quality of Environment

AOpen Smart Cooling System

A series of lab tests were conducted under real life scenarios to determine the optimum CPU fan speeds to control system temperatures while running popular tasks. The Smart Fan Controls in MP45s have been pre-stored with Fan Control IC settings based on test findings – resulting in unparalleled noiseless and energy-efficient operation.





CPU Speed v.s. CPU Temperature

MP45 Speed and Power Performance

- **Big Power Performance in a uSFF Platform!**
  - Socket P, Intel Core 2 Duo (Penryn), FSB 667/800/1066 MHz
  - Dual Channel DDRII SO-DIMM x 2, DDRII 667/800, up to 4GB
  - Expandability: USB 2.0, e-SATA, PCI-e, 802.11 b/g, Ethernet, HDMI, DVI, HDTV Tuner
- **1080p HD Graphics – Blue-ray – 3D Gaming**
  - Intel® GMA X4500 Graphics Engine (3x faster than GMA X3100)
  - Microsoft® DirectX10
  - Shader Model 4.0
  - Open GL 2.0
- **High Definition Audio**
  - Realtek ALC888 HD Audio Chip
  - 5.1 Channel Audio with S/PDIF

What's all the buzz about AOpen's new MP45 Mini-Forms? They're reinventing workstations and home desktops with sustainable Green Tech and big energy cost savings!

The New PC Market: Consumers want next-generation upgrades of their desktops that can pull the same payload as their traditional PCs but at a fraction of the energy consumption, heat and noise output, and size.

Solution: Take an Energy Star 4.0 Ready MP45 for a test drive now!

Socket P Penrun | 45nm Processors Ready | TRULY 64 bits Architecture | 1066 MHz FSB | intel GM45 ICH9M | GMA X4500 | SODIMM DDRII Dual Channels | 800 DDRII | Windows Vista™

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MP45 Expandability: e-SATA

e-SATA (External SATA)

MP45 e-SATA Expansion Option: Get external device interface specifications and new shielded connector and a shielded cable up to two meters in length. The external connector is keyed so it cannot be accidentally plugged into an internal connector. e-SATA is up to *6 times* faster than existing external storage solutions such as USB 2.0 or 1394.

☐ Ultra Fast Performance

- ◆ High speed data transfer rate up to 3.0Gbps
- ◆ Up to 6 times faster than USB 2.0 and 1394

☐ Easy and Convenient Installation

- ◆ Plug and Play Installation
- ◆ Hot Swappable

☐ Cost-Effective Expansion Storage

- ◆ Create HD Media Libraries
- ◆ Backup Data Files
- ◆ Maximize Business Applications

What's Inside the Box?

EIG

Driver CD

Power DVD v7.0 (Optional)

NTI Media Maker (Optional)

MPI-SATA_V5 Riser Card

DVI to HDMI Converter (MP45-DR only)

90W DC 20V Power Adapter

Power Cord (Domestic or International)

Remote Control (MP45-DR Only)

S/PDIF Converter

DVI to DVI+VGA Y Cable (MP45-DR only)

DVI to VGA Converter (MP45-D / MP45-DU)

HDD Screw (4pcs)

SATA Card Screw(2pcs)

Bluetooth Screw (1pcs)

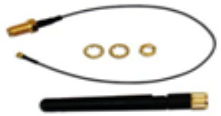
At-a-Glance: MP45-DR / MP45-D / MP45-DU

	MP45-DR	MP45-D	MP45-DU
ID color	ID4_Black	ID4_Black	ID4_Black
MB	i45GMx-IR (GM45 + ICH9M) (with DVI)	i45GMx-I (GM45 + ICH9M) (with DVI)	i45GMx-I (GM45 + ICH9M) (with DVI)
Riser Card	MPI-SATA_V5	MPI-SATA_V5	MPI-SATA_V5
Power board	With IR	Without IR	Without IR
RC6	V	None	None
Remote Control	V	None	None
ODD	Super Multi	Super Multi	None
VGA	DVI to DVI+VGA Y cable	DVI to VGA Converter	DVI to VGA Converter
HDMI	DVI to HDMI Converter	None	None
PowerDVD CD	V	V	None
CD/DVD Maker	V	V	None
S/PDIF Converter	V	V	None

At-a-Glance: Compare MP45-DR and MP965-DR

Model Name	MP45-DR	MP965-DR
ID		
CPU	Socket P Support Penryn CPU FSB 667/800/1066	Socket P Support Merom / Penryn CPU FSB 533/667/800
Chipset	Intel GM45 + ICH9M	Intel GM965 + ICH8M
Memory	DDRII SO-DIMM x 2, DDRII 667/800	DDRII SO-DIMM x 2, DDRII 533/667
Graphics	Intel GMA X4500 Support Microsoft Direct X10	Intel GMA X3100 Support Microsoft Direct X9
Video Out	DVI port x 1 VGA Port x 1 (by Y Cable) HDMI Port x 1 (w/Audio by Converter)	DVI Port x 1 VGA Port x 1 (by Y cable) HDMI Video Out x 1 (by Converter) Multi TV Out x 1 (by Cable)
USB Port	USB 2.0 Port x 6, (Front x 2, Rear x 4)	USB 2.0 Port x 4, (Front x 2, Rear x 2)
IEEE 1394	N/A	IEEE 1394 Port x 1 (rear)
Storage	SATA port x 1 (for HDD) PATA Port x 1 (for ODD) eSATA Port x 1 (Rear)	SATA port x 1 (for 2/5" HDD) PATA Port x 1 (for ODD)

Optional Item List (Partial)

Accessories						
Model to use	Mini PC MP965 Series apply			Others		
Model Name	TV Tuner Kit (ATSC) New	TV Tuner Kit (DVBT) New	802.11b/g Wireless kit	Wireless Antenna (Black)	DVI to D-Sub + DVI Cable	Bluetooth Module
AOpen P/N	90.MA610.0120	90.MA610.0020	90.MA658.0010	59.8EX01.0010	50.8EX07.0010	90.MA649.0110
EAN Code	471260-293321-6	471260-293322-3	471260-293023-9	471260-293165-6	471260-293145-8	471260-293109-0
UPC Code			750519-17310-7	750519-17681-8	750519-17646-7	750519-17554-5
Product Picture						
Slot	MINI Card					USB
Interface	PCIe				DVI-i	USB
Module Board	Analog / ATSC TV Yuan Hybrid TV MiniCard (Analog TV includes PAL, SECAM, NTSC)	Analog / DVB-T TV Yuan Hybrid TV MiniCard (Analog TV includes PAL, SECAM, NTSC)	802.11b/g 54Mbps Wireless LAN PCI Express Mini Card	NA	NA	Bluetooth2.0 USB Module
Driver CD	Yes	Yes	Yes	NA	Yes	Yes
AP	AC3 AP (2CH) Encoder for Vista MCE	AC3 AP (2CH) Encoder for Vista MCE	No	No	No	No
RF Cable	Yes	Yes	Yes	Yes	No	No
Antenna	ATSC Antenna	DVB-T Antenna	2.4GHz Swivel (Black)	Yes (Black)	No	No
Converter	Converter IEC to F	Converter IEC to F	No	No	No	No
Installation Guide	No	No	No	No	No	No
Model	MC521A	MC770A	WN6302A-F4	IWX-282XRSXX-363		QBTM300(V6) (BT USB Module)
Available	Now	Now	Now			